

STATUS OF THE CLAIMS

Claims 1-42 were originally filed in this patent application. In response to the first office action dated 05/16/2007, an amendment was filed on 08/16/2007 that cancelled claims 26-27, 33-34, and 41-42 and amended claims 6, 9, 12, 25, 32, and 40. In response to the second office action dated 11/02/2007, claims 2, 14, and 28 were cancelled and claims 1, 13, and 25 were amended. In the pending non-final office action dated 05/23/2008, claims 1, 13, 18, and 25 were rejected under 35 U.S.C. §112, second paragraph. Claims 1, 3-13, 15-25, 29-32 and 35-40 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,266,822 to Boudnik *et al.* (hereinafter “Boudnik”) in view of U.S. Patent Application Publication US 2004/0205755 to Lescouet *et al.* (hereinafter “Lescouet”). No claim was allowed. In this amendment, claims 13 and 15-24 have been cancelled, claims 32 and 40 have been amended, and claims 43-44 have been added. Claims 1, 3-12, 25, 29-32, 35-40, and 43-44 are currently pending.

REMARKS

Reservation of Patent Rights

In this amendment, applicant has amended claims 32 and 40 and cancelled claims 13 and 15-24 from further consideration in this application. Applicant is not conceding that the subject matter encompassed by claims 13 and 15-24, 32 and 40 is not patentable over the art cited by the examiner. Claims 32 and 40 were amended and claims 13 and 15-24 were cancelled in this amendment solely to facilitate expeditious prosecution of the remaining claims. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by claims 13, 15-24, 32 and 40 as presented prior to this amendment and additional claims in one or more continuing applications.

Rejection of claims 1, 13, 18 and 25 under 35 U.S.C. §112, second paragraph

The examiner rejected claims 1, 13, 18 and 25 under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 13 and 18 have been cancelled herein and therefore need not be addressed. Applicant respectfully traverses the examiner's rejection of the remaining claims under 35 U.S.C. §112, second paragraph. The examiner states it is not clearly understood as to where the pause/resume mechanism is sending a pause message and a resume message. Claim 1 recites "the pause/resume mechanism sending a pause message when a first operating system needs to be restarted to at least one other operating system that is using a shared resource that is also used by the first operating system." This portion of the claim can be separated by brackets to understand where the pause message is sent, as shown below:

[the pause/resume mechanism sending a pause message]
[when a first operating system needs to be restarted]
[to at least one other operating system that is using a shared resource that
is also used by the first operating system]

We see from the brackets above the pause/resume mechanism sends a pause message in bracket 1 when the condition in bracket 2 is satisfied to at least one other operating system in bracket 3. Applicant respectfully asserts claim 1 clearly recites the pause/resume mechanism sends a pause message to at least one other operating system that is using a shared resource that is also used by the first operating system, as expressly recited in claim 1. As a result, the examiner's contention that the claims do not clearly recite where the pause/resume sends the pause message is in error.

The examiner also says it is not clearly understood as to where the pause/resume mechanism is sending the resume message. Claim 1 clearly recites "the pause/resume mechanism . . . sending a resume message to the at least one other operating system." The term "the at least one other operating system" has antecedent basis in "at least one other operating system that is using a shared resource that is also used by the first operating system" recited earlier in the claim. Thus, the pause/resume mechanism sends a resume message to the at least one other operating system, as expressly recited in claim 1. As a result, the examiner's contention that the claims do not clearly recite where the pause/resume is sending the resume message is in error.

The examiner also says it is not clearly understood from whom the pause/resume mechanism receives a pause complete message. Claim 1 recites "the pause/resume mechanism receiving a pause complete message from each other operating system." Claim 1 thus clearly recites the pause/resume mechanism receives a pause complete message from each other operating system as recited in claim 1. Applicant respectfully asserts the term "each other operating system" has proper antecedent basis in "at least one other operating system that is using a shared resource that is also used by the first

“operating system” in the claims. As a result, the examiner’s contention that the claims do not clearly recite from whom the pause/resume receives a pause complete message is in error.

Applicant strongly asserts the pending claims clearly recite the sender and recipient of the pause message, pause complete message, and resume message recited in the pending claims. For the reasons given above, the examiner’s rejection of the claims under 35 U.S.C. §112, second paragraph, is in error, and applicant respectfully requests reconsideration of the examiner’s rejection of these claims.

Rejection of claims 1, 3-13, 15-25, 29-32, and 35-40 under 35 U.S.C. §103(a)

The examiner rejection claims 1, 3-13, 15-25, 29-32, and 35-40 under 35 U.S.C. §103(a) as being unpatentable over Boudnik in view of Lescouet. Claims 13 and 15-24 have been cancelled herein and therefore need not be addressed. Each of the remaining claims is addressed below.

The examiner lumps together the rejections of claims 1, 6-8, 13, 18-20, 25, 32 and 35-36, addressing only the limitations of claim 1. This is clear error. There are limitations in some of these claims that do not exist in claim 1, and are therefore not addressed by merely addressing the limitations in claim 1. For example, claims 6, 18 and 32 recite first and second operating systems. The examiner has not addressed these limitations in claims 6, 18 and 32. As a result, the examiner has failed to establish a *prima facie* case of obviousness for claims 6, 18 and 32 under 35 U.S.C. §103(a). Nowhere does the cited art teach or suggest first and second operating systems as recited in claims 6, 18 and 32. For this reason alone, claims 6, 18 and 32 are allowable under 35 U.S.C. §103(a) over the combination of Boudnik and Lescouet.

Nowhere does the rejection of claim 1 address the limitations in claim 18 of “a computer-implemented method for sharing a shared resource owned by a first operating

system with a second operating system.” As a result, the examiner has failed to establish a *prima facie* case of obviousness for claim 18 under 35 U.S.C. §103(a). Neither Boudnik nor Lescouet deal with sharing resources owned by different operating systems. As a result, claim 18 is allowable under 35 U.S.C. §103(a) over the combination of Boudnik and Lescouet.

Nowhere does the rejection of claim 1 address the limitations in claims 7, 19 and 35 of a plurality of operating systems that use the shared resource. As a result, the examiner has failed to establish a *prima facie* case of obviousness for claims 7, 19 and 35 under 35 U.S.C. §103(a). Neither Boudnik nor Lescouet teach or suggest a plurality of operating systems that use the shared resource. As a result, claims 7, 19 and 35 are allowable under 35 U.S.C. §103(a) over the combination of Boudnik and Lescouet.

In rejecting claim 1, the examiner states Boudnik teaches “the pause/resume mechanism sending a pause message”, citing FIG. 5 and col. 14 lines 47-49 of Boudnik. The pause message is explained at col. 14 lines 3-6 of Boudnik as follows:

The pause task message instructs the computing resource to pause execution of the current task object at the then current stage of execution but does not abort execution of the current task object.

Claim 1 recites:

... sending a pause message when a first operating system needs to be restarted to at least one other operating system that is using a shared resource that is also used by the first operating system, . . .

While the examiner’s rejection addresses sending a pause message, the examiner’s rejection does not address the remainder of this clause, namely “when a first operating system needs to be restarted to at least one other operating system that is using a shared resource that is also used by the first operating system.” Because the examiner has not addressed this limitation in the rejection of claim 1, the examiner has failed to establish a

prima facie case of obviousness for claim 1 under 35 U.S.C. §103(a). Nowhere does Boudnik teach or suggest “sending a pause message . . . to at least one other operating system that is using a shared resource that is also used by the first operating system” as expressly recited in claim 1. Boudnik is completely devoid of any teaching whatsoever regarding sharing of resources by different operating systems. For this reason alone, claim 1 is allowable under 35 U.S.C. §103(a) over the combination of Boudnik and Lescouet.

In the rejection of claim 1, the examiner states Boudnik teaches the pause/resume mechanism receiving a pause complete message from each other operating system to indicate each other operating system has completed pending accesses to the shared resource, citing FIG. 5 and col. 14 lines 50-53 of Boudnik. This rejection fails for a number of reasons. First, the pause message in Boudnik is a pause task message that is sent to the same computing resource to which a “run task” message was previously sent. The pause task message in Boudnik does not read on the pause complete message in claim 1. The pause task message in Boudnik is sent to the same computing resource that previously received a “run task” message. As a result, the pause task message is sent by the pause/resume mechanism in Boudnik to the computing resource, and is not received by the pause/resume mechanism. In claim 1, the pause/resume mechanism in claim 1 sends the pause message and resume message to at least one other operating system that is using the shared resource, and receives the pause complete message from each other operating system to indicate each other operating system has completed pending accesses to the shared resource. The direction of the pause task message in Boudnik is therefore in the wrong direction. The pause task command is issued by the same entity that issued the run task command. In addition, pausing a task in Boudnik does not read on the pause complete message recited in claim 1. In fact, the pausing of a task in Boudnik expressly teaches away from a pause complete command as recited in claim 1. Completing a pause as recited in claim 1 is the polar opposite of beginning a pause, as taught in Boudnik. As a result, the sending of the pause task message in Boudnik does not read on receiving a

pause complete message from each other operating system to indicate each other operating system has completed pending accesses to the shard resource, as recited in claim 1.

Furthermore, the pause task message in Boudnik does not read on the pause complete message in claim 1. The pause complete message in claim 1 indicates “each other operating system has completed pending accesses to the shared resource” as expressly recited in claim 1. The pause task message in Boudnik, in contrast, does not indicate each other operating system has completed pending accesses to the shared resource. In fact, Boudnik has no teaching whatsoever of operating systems sharing a resource, and has no teaching whatsoever of a message that indicates each operating system has completed pending accesses to the shared resource. For the many reasons given above, claim 1 is clearly allowable over the combination of Boudnik and Lescouet cited by the examiner, and applicant respectfully requests reconsideration of the examiner’s rejection of claim 1 under 35 U.S.C. §103(a).

In the rejection on p. 4 of the pending office action, the examiner states:

6. However, Boudnik does not explicitly teach, that the pause, pause complete and the resume messages are sent when, before and after the first operating system is restarted.

7. Whereas, in the same field of endeavor Lescouet discloses a system with multiple operating system including an operation system (OS) scheduler; OS interrupt handlers, OS switcher and booting and initializing an operating system in (FIG. 4; paragraph 77, 87, and 92) where the interrupt handler; OS scheduler and the OS boot and initialize modules, are known in the art for synchronizing and scheduling multiple operating systems running in the same system.

As shown above, after admitting Boudnik does not teach when the messages are sent, the examiner simply recites some general features of Lescouet without stating Lescouet teaches the portions of the claims Boudnik does not teach. In essence, the examiner

admits Boudnik does not teach oranges, then states Lescouet teaches apples. The examiner in the rejection did not even state or allege Lescouet teaches when to send messages. The examiner has failed to provide a mapping of which parts of Lescouet supposedly teach the claimed limitations. Reciting an OS scheduler, interrupt handler, and switcher provides no description as to when the messages in Boudnik are sent, as alleged by the examiner. The examiner admits Boudnik does not teach when the messages are sent, and Lescouet does not teach messages being sent or when they are sent. In addition, nowhere has the examiner shown any references that teach or suggest sharing resources by different operating systems. Claim 1 recites:

...a pause/resume mechanism residing in the memory and executed by the at least one processor, the pause/resume mechanism sending a pause message **when a first operating system needs to be restarted to at least one other operating system that is using a shared resource that is also used by the first operating system**, the pause/resume mechanism receiving a pause complete message from each other operating system to indicate each other operating system has completed pending accesses to the shared resource **before restarting the first operating system**, and sending a resume message to the at least one other operating system **after the first operating system is restarted**

Nowhere did the examiner show any teaching of either Boudnik nor Lescouet that allegedly teach the limitations shown in bold above. As a result, the examiner has failed to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a).

After failing to show where or how Lescouet teaches or suggests when messages are sent, the examiner states:

8. It would be obvious to a person of ordinary skill in the art at the time the invention was made to modify Boudnik's invention with Lescouet's[sic] invention to include program modules for restarting the first operating system when, before and after a pause, pause complete and resume messages are sent. One would be motivated combine [sic] these two references in order to enable the sharing of resources between different

operating system and to allow applications running on different operating systems to communicate.

This rationale to combine Boudnik and Lescouet fails for many reasons. First, neither Boudnik nor Lescouet teach or suggest sharing of resources between different operating systems. Second, neither Boudnik nor Lescouet teach allowing applications running on different operating systems to communicate. As a result, the examiner's stated rationale for combining Boudnik and Lescouet is improper because the reasons given by the examiner for the combination are teachings that are only in applicant's disclosure and claims. This amounts to clear hindsight reconstruction by the examiner. Because neither Boudnik, Lescouet nor their combination teach or suggest sharing of resources between different operating systems and allowing applications running on different operating systems to communicate, the examiner's combination of Boudnik and Lescouet under 35 U.S.C. §103(a) is improper. Applicant respectfully requests reconsideration of the examiner's rejection of claim 1 under 35 U.S.C. §103(a).

Claims 6, 12-13, 18, 24-25, 32 and 40 are independent claims that include limitations similar to those discussed above for claim 1. As a result, claims 6, 12-13, 18, 24-25, 32 and 40 are allowable for the same reasons given above for claim 1.

Claims 3-5 depend on claim 1, which is allowable for the reasons given above. Claims 7-11 depend on claim 6, which is allowable for the reasons given above. Claims 29-31 depend on claim 25, which is allowable for the reasons given above. Claims 35-39 depend on claim 32, which is allowable for the reasons given above. As a result, claims 3-5, 7-11, 29-31 and 35-39 are allowable as depending on allowable independent claims.

For the many reasons given above, claims 1, 3-12, 25, 29-32, and 35-40 are allowable over the combination of Boudnik and Lescouet and applicants respectfully request reconsideration of the examiner's rejection of these claims under 35 U.S.C. §103(a).

New claims 43 and 44

Applicants have added new claims 43 and 44 that include a unique combination of limitations previously disclosed but unclaimed. Applicant respectfully requests allowance of claims 43 and 44.

Conclusion

In summary, none of the references, nor their combination teach, support, or suggest the unique combination of features in applicants' claims presently on file. Therefore, applicants respectfully assert that all of applicants' claims are allowable. Such allowance at an early date is respectfully requested. The Examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

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